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Illinois Hospitals Continue Reducing Infections

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Table 1 Summary of Central Line-associated Bloodstream Infection (CLABSIs) Data by Type of Intensive Care Unit (ICU), 2012

ICU Type	Number of Units Reporting	Number of CLABSI Infections		Standardized Infection Ratio (SIR)	95% Confidence Interval (SIR)		Statistical Interpretation
		Observed	Predicted		Lower	Upper	
All ICU Combined	261	432	785.91	0.55	0.50	0.60	Lower
Adult ICU	198	343	556.03	0.62	0.55	0.69	Lower
Neonatal ICU (NICU)	42	65	156.97	0.41	0.32	0.53	Lower
Pediatric ICU (PICU)	21	24	72.91	0.33	0.21	0.49	Lower

Table 1 provides a snapshot summary of central line-associated bloodstream infections (CLABSIs) in Illinois intensive care units (ICUs) during 2012. Illinois hospitals have been reporting CLABSI data from adult ICUs to the Illinois Department of Public Health using the CDC's National Healthcare Safety Network since October, 2008. Reporting of CLABSI data from both PICUs and NICUs commenced in October, 2009. CLABSI data are summarized using the standardized infection ratio (SIR), a summary statistic used to measure relative difference in CLABSI occurrence during a reporting period, in this case 2012, compared to a common referent period (national data collected during 2006-2008). For additional information on Standardized Infection Ratios (SIRs), and confidence intervals (CIs), see the methodology section of the Illinois Hospital Report Card website.

During 2012, 432 CLABSIs were reported compared to 785.91 predicted, for an SIR of 0.55 (95% CI 0.50-0.60). This translates to a 45% reduction compared to the national referent period noted above. This is a statistically significant reduction. This significant reduction in CLABSIs was achieved in all three intensive care settings – adult ICUs, neonatal ICUs (NICUs) and pediatric ICUs (PICUs). The reduction of CLABSIs was 67% in PICUs, 38% in adult ICUs, and 59% in neonatal ICUs.

Table 2. Changes in SIR in Illinois ICUs, 2011 compared to 2012: CLABSI

Year	2011	2012	Percent Change	Significant Change	p-value
All ICUs Combined	0.586	0.550	6%	No	0.347
Adult ICUs	0.609	0.617	1%	No	0.877
NICUs	0.480	0.414	14%	No	0.406
PICUs	0.657	0.329	50%	Decrease	0.006

Table 3. Changes in SIR in Illinois ICUs, 2009 compared to 2012: CLABSI

Year	2009	2012	Percent Change	Significant Change	p-value
All ICUs Combined	0.861	0.550	36%	Decrease	0.000
Adult ICUs	0.865	0.617	29%	Decrease	0.000
NICUs	0.772	0.414	46%	Decrease	0.004
PICUs	0.949	0.329	65%	Decrease	0.001

Table 4. Changes in Standardized Infections Ratios (SIRs) in Illinois ICUs from 2009 - 2012, CLABSI

Year	2009	2010	2011	2012
All ICUs Combined	0.861	0.670	0.586	0.550
Adult ICUs	0.865	0.647	0.609	0.617
NICUs	0.772	0.658	0.480	0.414
PICUs	0.949	0.849	0.657	0.329

Figure 1. SIR of CLABSIs in Adult ICU, Neonatal ICU, and Pediatric ICU from 2009 - 2012

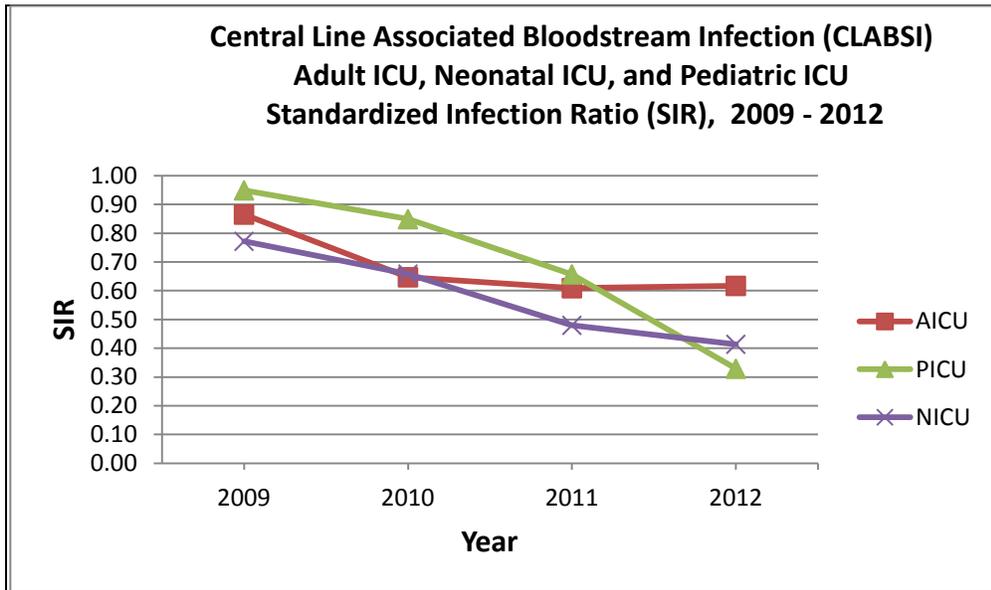
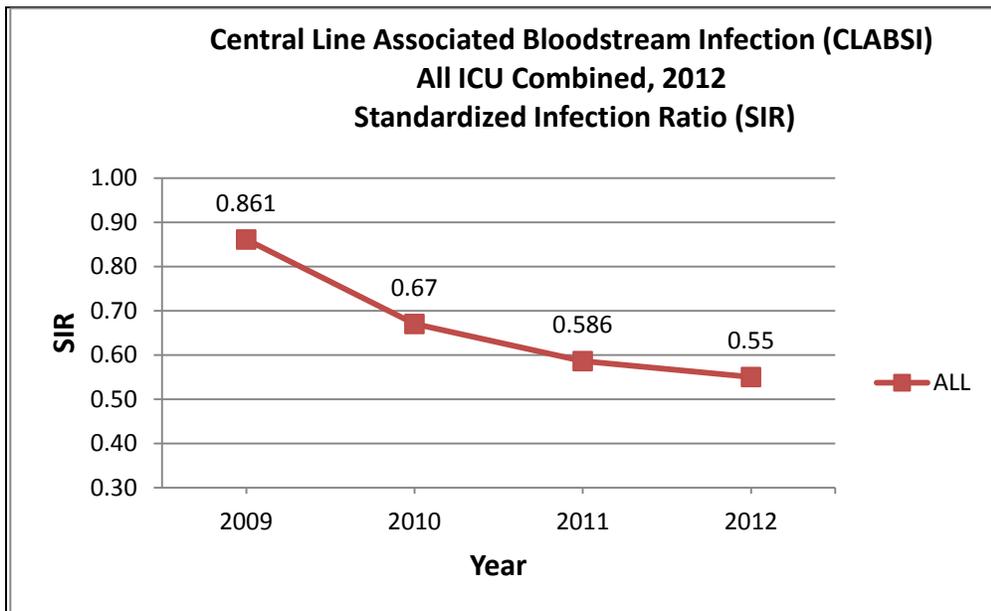


Figure 2. SIR of CLABSIs in ICUs combined from 2009 - 2012



Summary

Table 2 indicates that while there were decreases in the number of CLABSIs reported in all ICUS combined between 2011 and 2012, as reflected in the decreased SIR, this change was only found to be statistically significant PICUs. However, when examined for a longer period of time (Tables 3 and 4), the overall decrease in the number of CLABSIs reported in all ICUs combined and separately between is statistically significant since 2009. The SIR for CLABSIs in AICU, PICU, and NICU are trended over time in Figures 1 and 2.